REMARKS

Claims 1 and 21-24 are amended. Claims 1, 2, 4-7 and 21-24 are now pending in the application. Each issue raised in the Office Action mailed October 10, 2008 and the Advisory Action mailed January 23, 2009 is addressed hereinafter.

I. ISSUES RELATING TO PRIOR ART

A. CLAIMS 1, 2, 4-7 AND 21-24

Claims 1, 2, 4-7 and 21-24 continue to stand rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Shaffer et al. (U.S. Patent 6,757,277) in view of Packer et al. (U.S. Patent 6,046,980). The rejection is respectfully traversed.

For convenient reference, a portion of Claim 1 is repeated below.

> 1. A method for allocating bandwidth of a data network to a plurality of data streams, comprising:
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> detecting termination of the particular data stream;
> in response to detecting termination of the particular data stream, determining whether another data stream from said particular data class is able to use bandwidth that was allocated to the terminated data stream, and if so, allocating the bandwidth to the other data stream;
> in response to detecting that no data stream from said particular class is able to use bandwidth that was allocated to the terminated data stream, performing the steps of
> (a) selecting an existing data stream based, at least in part, on where the node that corresponds to the data class of the existing data stream is, within the hierarchical policy tree, relative to where the node of the class of the terminated data stream is, within said hierarchical policy tree; and
> (b) increasing the bandwidth allocated to said existing data stream.

DETECTING TERMINATION OF A DATA STREAM

As shown above, the amended Claim 1 recites, "in response to detecting termination of the particular data stream, determining whether another data stream from said particular data

class is able to use bandwidth that was allocated to the terminated data stream, and if so, allocating the bandwidth to the other data stream" (emphasis added). Claims 21-24 contain similar limitations.

Within Claim 1, when a data stream terminates, a check of all data streams belonging to the same class as the terminated data stream is performed. If it is determined that another data stream having the same class as the recently terminated data stream can use the new bandwidth, that other data stream gets that new bandwidth. Thus, the new bandwidth does not merely go to an anonymous pool of available bandwidth. Instead, the method of Claim 1 selectively re-allocates new bandwidth **based on the class of the terminated data stream**.

In rejecting this portion of Claim 1, the Office Action (page 5) relies on Packer's col. 11 line 39 through col. 12 line 16, and also col. 14 lines 32-37. However, Packer does not take into account the class of a dataflow that has terminated. Packer does not track this or any other information about the terminated data stream. Within Packer, allocation of new bandwidth is based solely on the **priority** of existing data flows, **regardless of a class of any terminated data stream**. For example, Packer states that "allocation of bandwidth resources for unreserved service is priority based" (col. 13, lines 21-22). Packer also states that the demands of data flows "are satisfied in order of priority level" (col. 13, line 49). Within Packer, a datastream with a higher priority would be awarded bandwidth over a datastream with a lower priority. This remains true even if the datastream with lower priority belonged to the same class as a terminated datastream, and the datastream with the higher priority did not. Thus, Packer behaves in a way that is contradictory with the language of Claim 1.

LOCATION WITHIN POLICY TREE

Claim 1 further recites, inter alia, "(a) selecting an existing data stream based, at least in part, on where the node that corresponds to the data class of the existing data stream is, within the hierarchical policy tree, relative to where the node of the class of the terminated data stream is, within said hierarchical policy tree". Claims 21-24 recite similar limitations.

Meanwhile, Packer does not track the class of a data stream that was recently terminated. Within Packer, when a data stream terminates, the bandwidth that was used by the terminated data stream becomes part of a pool of newly-available bandwidth where all new bandwidth is treated exactly the same. No information is available about what class of data stream terminated in order to free up bandwidth. Consequently, it is impossible for Packer to select "an existing data stream based . . . relative to where the node of the class of the terminated data stream is, within said hierarchical policy tree" as claimed.

Also, Packer's priority levels are not stored in Packer's classification tree 201 (bottom of column 14). Instead, Packer's tree 201 holds only traffic specifications for traffic classes, and is not used in awarding bandwidth. In allocating unused bandwidth or Excess Information Rate (EIR), Packer does not use the tree 201 whatsoever. Thus it is impossible for Packer to perform the claimed step of "selecting an existing data stream based . . . on where . . . the existing data stream is, within the hierarchical policy tree".

RESPONSE TO ADVISORY ACTION

For convenient reference, the remarks within the Advisory Action are repeated below.

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> Applicant argues that the prior art does not teach allocating freed bandwidth from a terminated stream to another stream within the same class. The examiner respectfully disagrees. The prior art clearly teaches a hard isolation technique wherein bandwidth are shared among subclass data flows or stream of a class (Packer, col. 14, 2.3, hard isolation and soft isolation). Therefore, free available bandwidth can be shared and protected among subset flows or stream of the class. The prior art also teaches soft isolation wherein free available bandwidth can be shared among different classes. Therefore, it would have been obvious to allocate free bandwidth to a stream belong to a same class first, and then to a stream from another class so that bandwidth needs from flows of a same class (such as a same company or building) will be satisfied first in order to increase efficiency in terms of managing free bandwidth according to an area of classification. Furthermore, given broadest reasonable interpretation, "selecting an existing data stream based . . . on where . . . the existing data stream is within the hierarchical policy tree" is just either selecting a stream from a same or different class of the terminated stream. In section 2.1, Packer describes a hierarchical tree of classifications wherein leaf nodes contains policies, wherein policies are created by a network manager. [Packer's section] 2.2.2 describes excess information rate wherein BW allocation is distributed on an "as available" basis (whenever BW is released), and BW is allocated to 10 VoIP streams on an application classification. It is obvious that when 10 streams are satisfied, unused BW can be allocated to other classification flows.

The remarks begin by asserting that "Applicant argues that the prior art does not teach allocating freed bandwidth from a terminated stream to another stream within the same class". This assertion is inaccurate, and a mischaracterization of Applicant's position. The remarks further assert "it would have been obvious to allocate free bandwidth to a stream belong to a same class first, and then to a stream from another class so that bandwidth needs from flows of a same class (such as a same company or building) will be satisfied first". This oversimplifies the language of Claim 1, but even allowing for that, still does not answer the question which of the "another class" gets the bandwidth. Also, "companies" and "buildings" are not discussed in Packer. The Examiner might be suggesting that a "same company" stream is closer within a policy tree, while a "same building" stream is within the policy tree, but perhaps further away than the "same company" stream. If so, such an argument still does not address the specific language within Claim 1, and also is very speculative and far beyond the stated meaning of anything found within Packer.

The remarks further state "given broadest reasonable interpretation, 'selecting an existing data stream based . . . on where . . . the existing data stream is within the hierarchical policy tree'

is just either selecting a stream from a same or different class of the terminated stream. This selective excerpting misquotes Claim 1. Claim 1 now recites "relative to where the node of the class of the terminated data stream is, within said hierarchical policy tree", which the excerpt overlooked entirely. This is significant because the class of the terminated data stream makes a big difference in who gets the new bandwidth.

Regarding the remark "selecting a stream from a same **or different** class of the terminated stream", this is not an accurate quote of any part of any Claim, but even setting that aside, this feature is not shown in Packer. Specifically, use the Examiner's example of selecting a stream of a "different class". Suppose say a stream of class C terminates, and streams of classes A and B both need bandwidth. How does Packer decide whether to give the newly released bandwidth to the class A stream, or to class B? The various rejections have admitted that Packer does not have a hierarchical policy tree. Without a hierarchical policy tree, what criteria does Packer use to make this decision on A or B? Instead, Packer awards all bandwidth on the basis of *priority* not policy, and as stated does so without referring to Packer's tree 201.

The remarks further state "[i]n section 2.1, Packer describes a hierarchical tree of classifications wherein leaf nodes contains policies, wherein policies are created by a network manager. [Packer's section] 2.2.2 describes excess information rate wherein BW allocation is distributed on an "as available" basis (whenever BW is released), and BW is allocated to 10 VoIP streams on an application classification". Packer's classification tree 201 described in columns 11 and 12 is used only for classifying data flows **after they have already begun existence** (column 11). Packer's tree is not consulted whatsoever when it is necessary to decide which data flow is awarded newly available bandwidth. Instead, demands are satisfied only according to priority level (col. 13, lines 48-50), and Packer's tree 201 is not consulted.

The remarks further state it "is obvious that when 10 streams are satisfied, unused BW can be allocated to other classification flows". Applicant respectfully disagrees. It is not obvious. This remark still does not address the issue of **which** of the "others" get the "unused BW", and how that issue is decided.

For at least the above reasons, the rejections of Claims 1 and 21-24, as well as the rejections of all claims dependent therefrom, are invalid and should be withdrawn.

II. CONCLUSIONS & MISCELLANEOUS

For the reasons set forth above, all of the pending claims are now in condition for allowance. The Examiner is respectfully requested to contact the undersigned by e-mail or telephone relating to any issue that would advance examination of the present application. As per MPEP Chapter 5, Applicant acknowledges that Internet communications may not be secure.

A petition for extension of time, to the extent necessary to make this reply timely filed, is hereby made. If applicable, a check for the petition for extension of time fee and other applicable fees is enclosed herewith. If any applicable fee is missing or insufficient, throughout the pendency of this application, the Commissioner is hereby authorized to charge any applicable fees and to credit any overpayments to our Deposit Account No. 50-1302.

Respectfully submitted,
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